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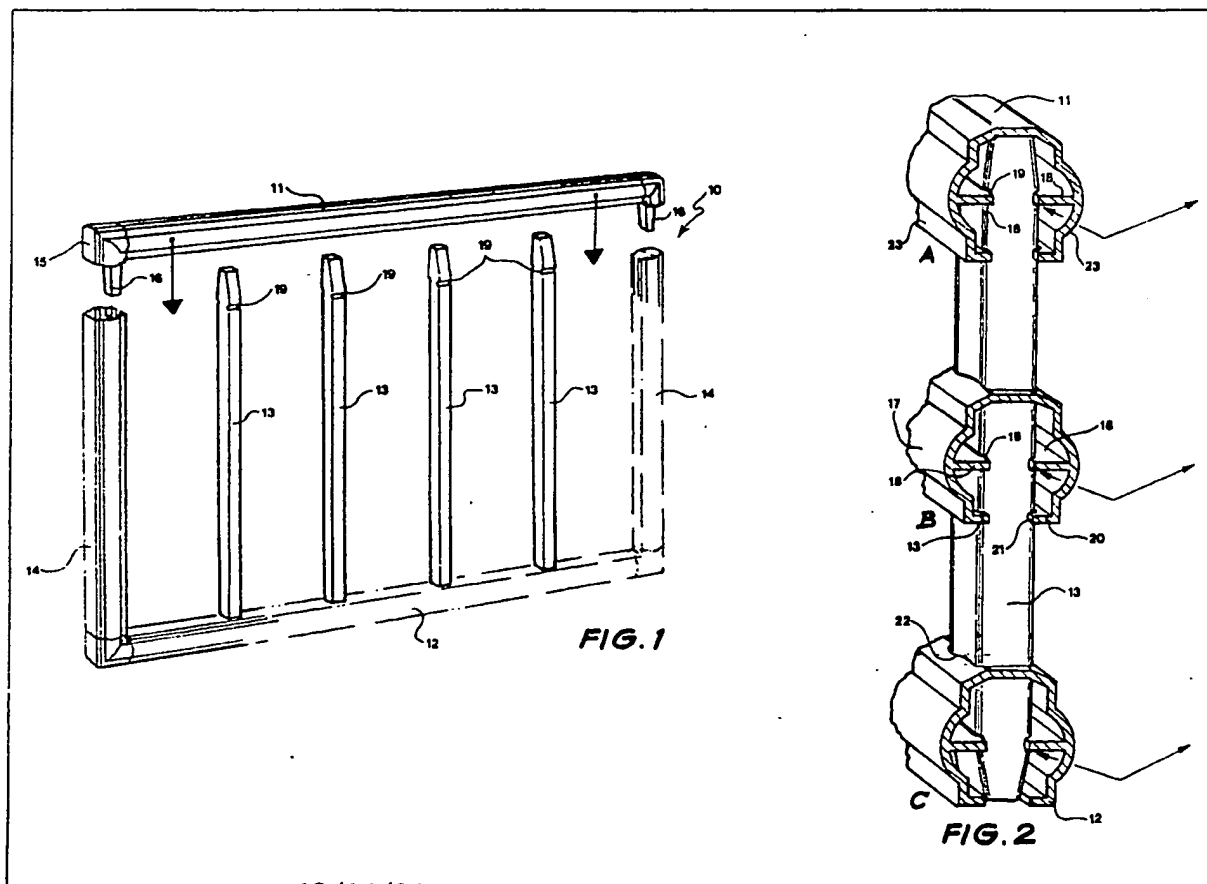
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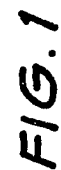
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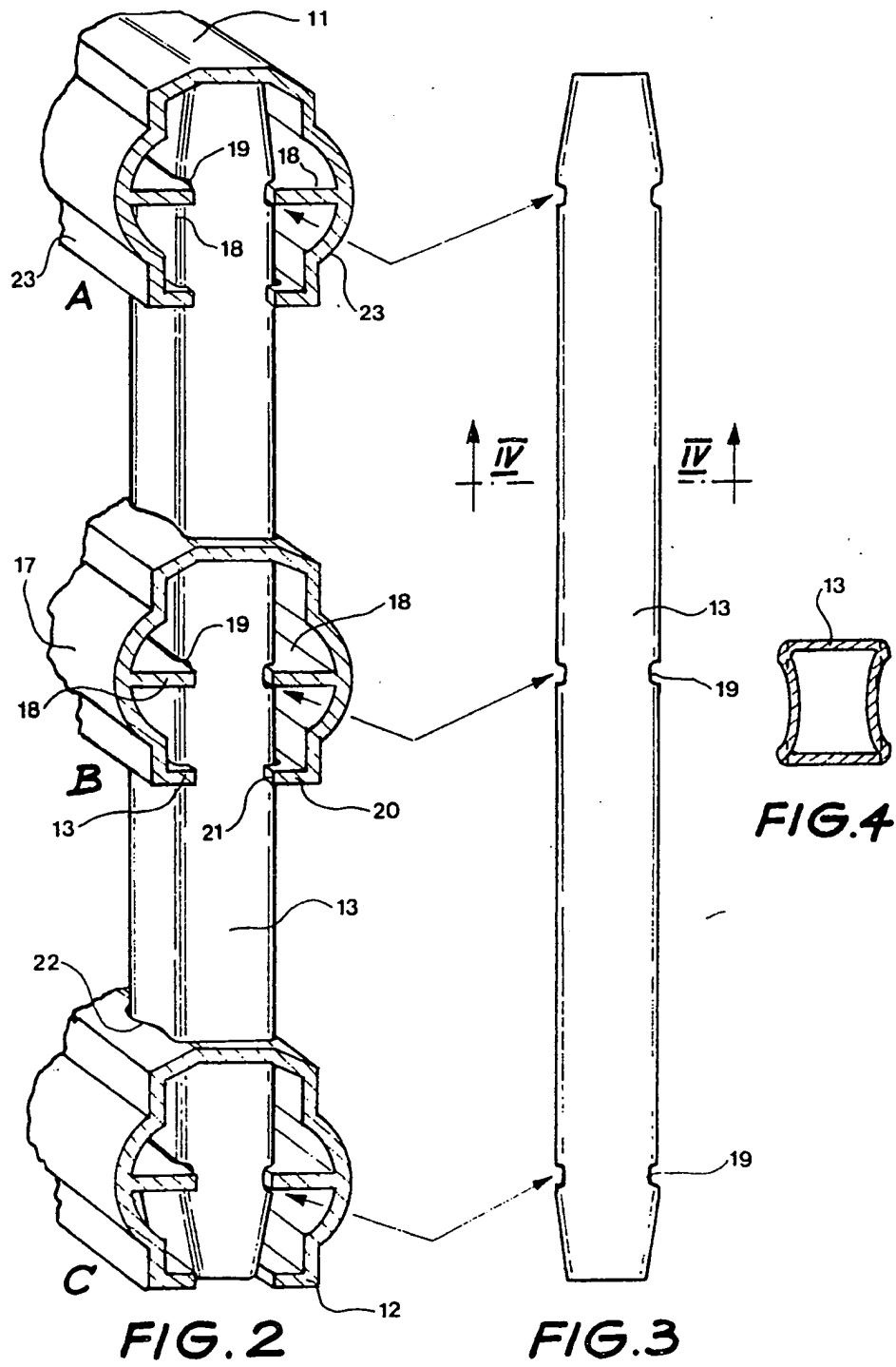
(54) Post and rail fence

(57) A fence panel comprises horizontal rails 11, 12 of channel cross-section with inturned flanges 20 which snap-fit into apertures 19 in the vertical members 13. The ends of the vertical members may be tapered to allow easier assembly.





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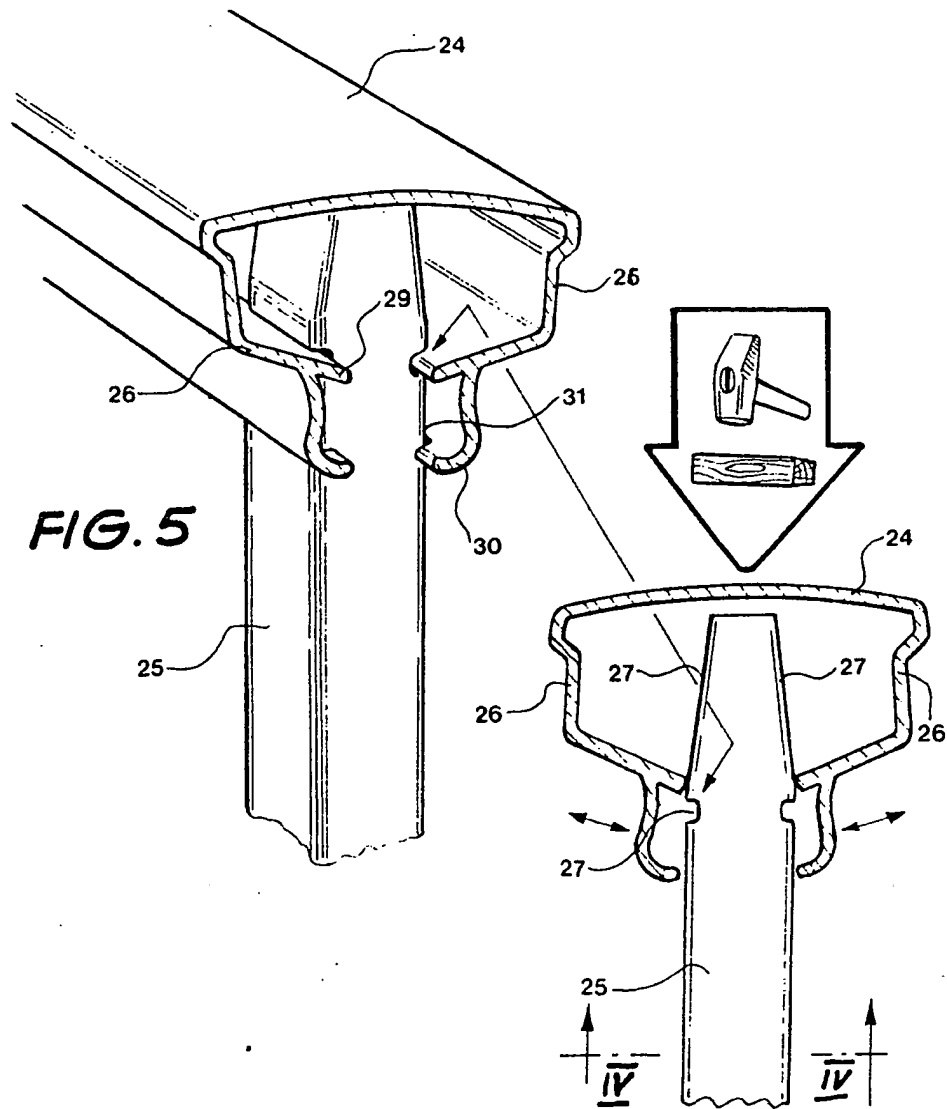
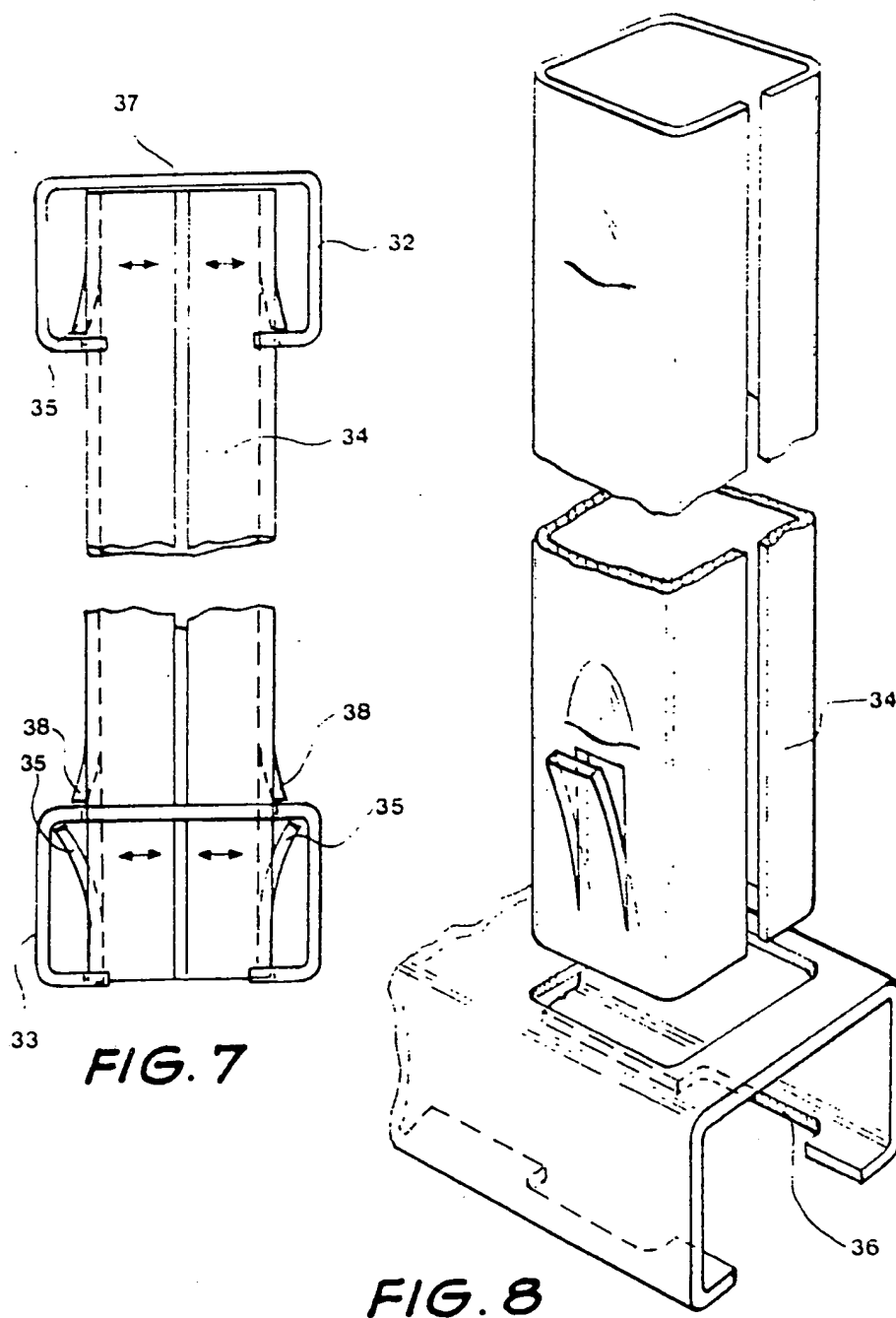


FIG. 6



SPECIFICATION

Post and fence rail assembly

5 The present invention relates to fence rail and post assemblies and more particularly but not exclusively to a clip arrangement for securing fence rails to fence posts.

10 Conventional methods of assembling fence rails to fence posts is time consuming and therefore costly. It is particularly noted that conventional fencing fastening means such as threaded fasteners and/or welding are used in the assembly which again adds to the assembly cost and requires a skilled person to effect the assembly.

It is an object of the present invention to overcome or substantially ameliorate the above disadvantages.

20 There is disclosed herein a fence assembly including a top and bottom, horizontal substantially parallel, co-extensive vertically spaced rails, said rails having a channel transverse cross-section with inwardly projecting longitudinally extending flanges, at least one vertical part coupling the rails and being secured to each by a clip arrangement, each clip arrangement including an aperture formed in the post positioned to receive one of said flanges, and wherein said rails and each post is adapted so that the rails are resiliently deformed so as to allow the rails to be inserted over the post and thereafter a one of the flanges located within the aperture in the rail.

A preferred form of the present invention will now be described by way of example with reference to the accompanying drawings, wherein:

40 *Figure 1* schematically depicts a fence consisting of top and bottom rails and vertical posts;

Figure 2 is a schematic sectioned side elevation of a rail and post assembly similar to that of *Fig. 1*;

45 *Figure 3* is a side elevation of the post used in *Fig. 2*;

Figure 4 is a transverse horizontal cross section of the post of *Fig. 3*;

50 *Figure 5* is a schematic perspective part sectioned view of an alternative top rail and post assembly;

Figure 6 is a parts sectioned end elevation of the rail and post of *Fig. 5* prior to assembly; and

55 *Figures 7 and 8* schematically depict an alternative clip arrangement to secure the rails and posts of the previous *Figs.* together.

In *Fig. 1* there is schematically depicted a fence assembly 10 having a top rail 11 to which is secured a bottom rail 12 by means of vertically extending posts 13 and side members 14. The side members 14 are secured to the top and bottom rails 11 and 12 by means of corner couplings 15 which have

tapered projections 16 which engage within the interior of the rails 11 and 12 and side members 14.

Now with reference also to *Figs. 2* to 6 there is depicted a clip arrangement allowing the securing of the rails 11 and 12 to the posts 13.

In *Fig. 2* there is depicted an additional metal rail 17. Each rail 11, 12 and 17 is 75 formed of metal channel having inwardly projecting transverse flanges 18 which are engaged within apertures 19 formed on two sides of the posts 13. Additionally, each rail 11, 12 and 17 has a pair of locating flanges 80 20 which are formed with U-shaped openings 21 adapted to encompass the peripheral surfaces of the posts 13. With this combination of flanges 18 engaging within apertures 19, and flanges 20 engaging the exterior surfaces 85 of the posts 13, the rails 11, 12 and 17 are rigidly secured to the post 13 to prevent both vertical and longitudinal movement relative to the posts 13. Additionally, the bottom rail 12 would be provided with upper openings 22 90 which allows the rails 13 to pass there-through. The rails 11, 12 and 17 are inserted over the posts 13 by having their sides 23 deflected transversely outward to enable assembly of the rails 11, 12 and 17 to each 95 post 13.

Turning now to *Figs. 5* and 6, there is depicted a top rail 24 which is of an alternative cross-section to the rails 11, 12 and 17 of *Fig. 2*, which top rail 24 is secured to a vertical post 25 by means of a clip arrangement similar to that employed in *Figs. 1* and 2. The top rail 24 has sides 26 which are deflected outwardly by the tapering surfaces 27 of the rail 25 so as to pass over the top 105 extremity of the post 25 and upon encountering slot 27 formed in the post 25, move inwardly under their own resilient action to securely engage the post 25. This is achieved merely by striking the top of the rail 24. The 110 rail has transversely extending flanges 29 which are engaged within the slots 29, while additionally the rail 24 has bottom flanges 30 which have formed recesses 31 which encompass portions of the post 25 to prevent longitudinal movement of the post 25 relative to the rail 24.

Turning now to *Figs. 7* and 8 there is depicted an alternative construction for securing a top rail 32 to a bottom rail 33 by means of a post 34. The vertical post 34 is deformed 120 so as to have outwardly projecting lugs 35 which may be resiliently deflected inwardly to allow the rails 32 and 33 to be inserted over the extremities of the post 34. Additionally, 125 each rail would be formed with a U-shaped opening 36 which encompasses surfaces of the post 34 to prevent relative longitudinal movement between the post 34 and the rail 33. More particularly with reference to the top 130 rail 32, the post 34 is held securely in

position since it abuts the top panel 37 of the rail 32 to prevent further vertical movement of the post 34, while the lower extremity of the post 34 is provided with additional lugs 38

- 5 which prevent further vertical movement of the rail 33 relative to the post 34.

CLAIMS

1. A fence assembly including a top and
10 bottom, horizontal substantially parallel, co-extensive vertically spaced rails, said rails having a channel transverse cross-section with inwardly projecting longitudinally extending flanges, at least one vertical part coupling the
15 rails and being secured to each clip arrangement, each clip arrangement including an aperture formed in the post positioned to receive one of said flanges, and wherein said rails and each post is adapted so that the rails
20 are resiliently deformed so as to allow the rails to be inserted over the post and thereafter a one of the flanges located within the aperture in the rail.

2. The assembly of claim 1, wherein each
25 post has two pairs of apertures, a first opposing pair adjacent the top of the post, and an opposing second pair adjacent the bottom of the post, and each rail has a pair of opposing flanges adapted to be engaged within a pair
30 of opposing apertures.

3. The assembly of claim 2 wherein the top and bottom extremities of each post are tapered so as to aid in resiliently deforming the rails.

- 35 4. A post and rail assembly substantially as hereinbefore described with reference to the accompanying drawings.

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